

**DEPARTMENT of ENVIRONMENTAL SERVICES**  
**Water Supply & Pollution Control Division - Biology Bureau**

**LAKE TROPHIC DATA**

**MORPHOMETRIC:**

Lake: RAND POND	Lake Area (ha): 15.66
Town: GOSHEN	Maximum depth (m): 8.2
County: Sullivan	Mean depth (m): 3.4
River Basin: Connecticut	Volume (m <sup>3</sup> ): 534000
Latitude: 43°19'03" N	Relative depth: 1.8
Longitude: 72°06'31" W	Shore configuration: 1.28
Elevation (ft): 1257	Areal water load (m/yr): 4.90
Shore length (m): 1800	Flushing rate (yr <sup>-1</sup> ): 1.40
Watershed area (ha): 132.1	P retention coeff.: 0.66
% watershed ponded: 0.0	Lake type: natural w/dam

**BIOLOGICAL:**

		9 February 1995	23 August 1994
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 75%	TABELLARIA 45%
	#2	DINOBRYON 25%	MELOSIRA 15%
	#3		GLOEOCYSTIS 15%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			9.50
DOM. ZOOPLANKTON (% TOTAL)	#1	LRG ROUND CILIATE 63%	KELLICOTTIA 47%
	#2	LONG OVAL CILIATE 35%	NAUPLIUS LARVA 19%
	#3		
ROTIFERS/LITER		1	84
MICROCRUSTACEA/LITER		3	45
ZOOPLANKTON ABUNDANCE (#/L)		52	129
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			3.3
BOTTOM DISSOLVED OXYGEN (mg/L)		11.9	0.0
BACTERIA (E. coli, #/100 ml)	#1		4
	#2		14
	#3		

**SUMMER THERMAL STRATIFICATION:**

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : 2500

**CHEMICAL:**

Lake: RAND POND

Town: GOSHEN

	9 February 1995		23 August 1994		
DEPTH (m)	2.0	4.0	2.0	5.0	7.0
pH (units)	6.8	6.5	7.0	6.9	6.8
A.N.C. (Alkalinity)	6.8	6.8	7.2	6.9	8.1
NITRATE NITROGEN	< 0.10	< 0.10	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.28	0.39	0.44	0.30	0.26
TOTAL PHOSPHORUS	0.008	0.009	0.003	0.007	0.006
CONDUCTIVITY ( $\mu$ mhos/cm)	72.3	73.0	74.5	75.3	77.0
APPARENT COLOR (cpu)	13	14	17	18	23
MAGNESIUM			0.73		
CALCIUM			4.2		
SODIUM			8.0		
POTASSIUM			0.72		
CHLORIDE	14	14	14		14
SULFATE	4	4	4		4
TN : TP	35	43	147		43
CALCITE SATURATION INDEX			2.8		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1994**

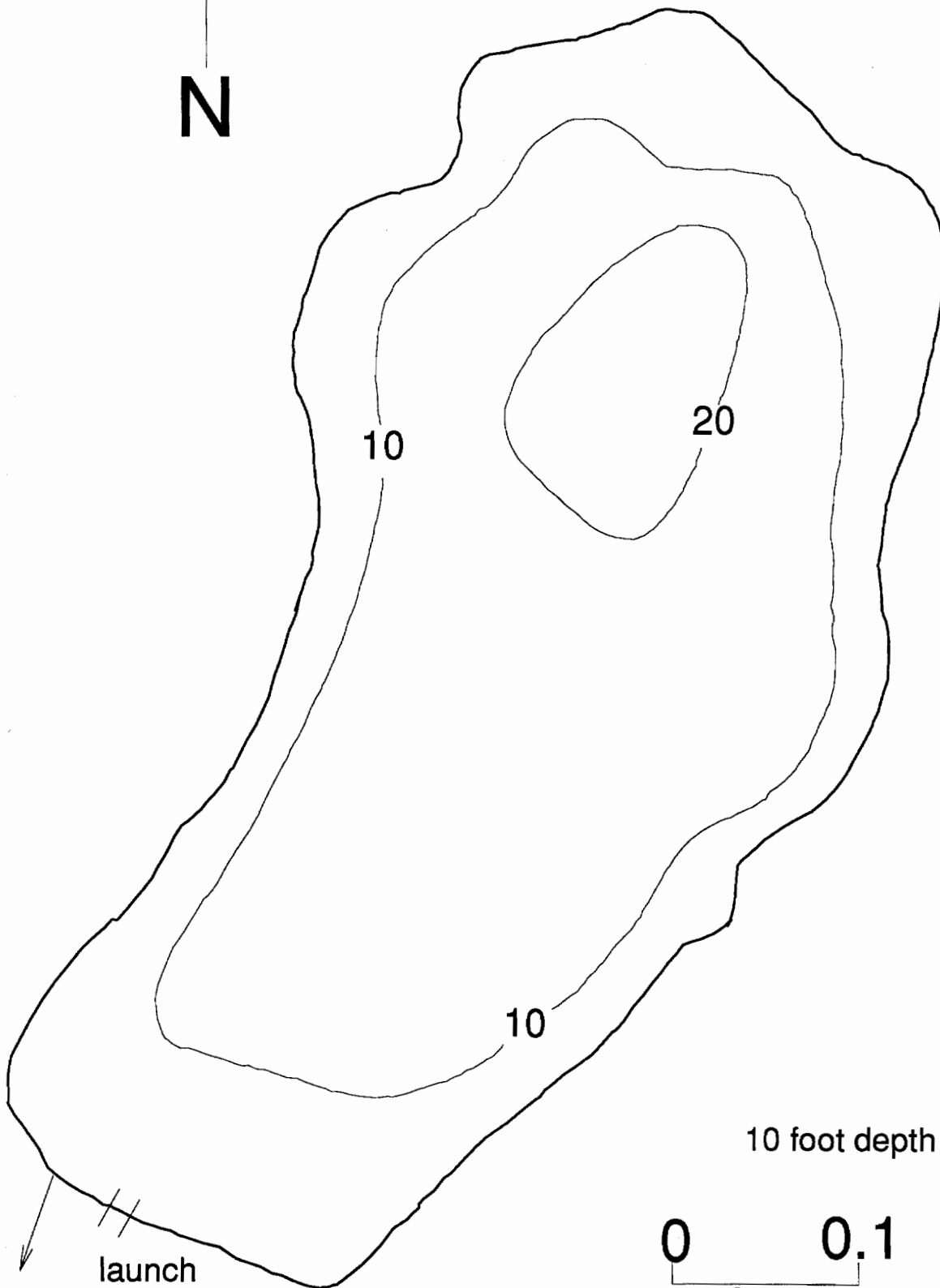
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	0	2	4	Oligo.

**COMMENTS:**

1. This pond was previously surveyed and classified in 1979. There was no change in the assigned trophic classification, but there was a four-fold increase in the phytoplankton population and a 4 foot decrease in water clarity in 1994.
2. Rand Pond also participates in DES' Volunteer Lake Assessment Program and has eight years of data (since 1987). That data shows relatively stable trends in phytoplankton (chlorophyll) and water clarity; the differences between the 1979 and 1994 survey data falls within the normal annual fluctuations. This points out the need for annual data collection to evaluate trends.
3. Good boat launch site; gravel into shallow water; no restrictions.
4. Shoreline densely packed with cottages -- many for sale. A trailer campground was at the southern end of the pond.

# Rand Pond

## Goshen



10 foot depth contours

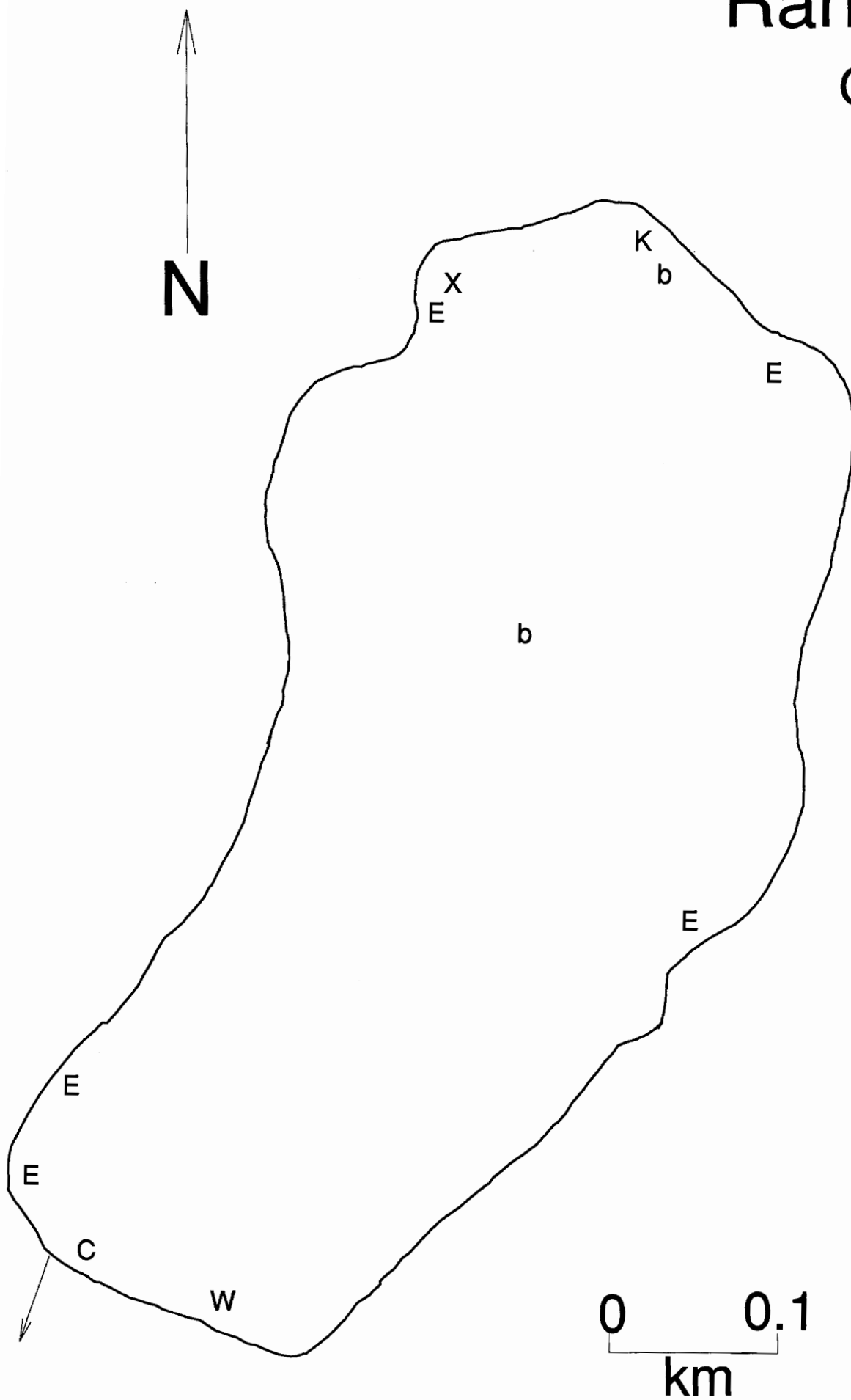
launch

0 0.1  
km

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# Rand Pond

## Goshen



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